

SAFETY DOCUMENT

Boliden Harjavalta

SAFETY DOCUMENT — ANNUAL SHUTDOWN MAINTENANCE 2027

Version	Date	Change from the previous year's Safety Document
1	1/23/2026	Section 7. Construction-site hazards and the level of risk have not yet been assessed in this first version.
2	6/4/2026	Section 3: The contact persons for the sulfuric acid plant and the by-product plants have changed. Section 5.1: Boha will no longer arrange biomonitoring for contractors. Boha is responsible for ensuring occupational safety cooperation at the shared worksite, which also includes the suppliers' occupational safety representatives. Section 5.2: Allow sufficient time to review, comment on, and sign the documents. Section 6.2: The guidelines listed on the Industrial Park Intranet annual shutdown site. Section 7. Construction-site hazards and the level of risk have not yet been assessed in this first version.

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1 Introduction

This safety document is the safety statement required under Finnish Government Decree Vna 205/2009, prepared as applicable for the Boliden Harjavalta annual shutdown maintenance. Its purpose is to provide the necessary safety information so that the work can be carried out safely and without compromising employee safety.

This safety document serves as the baseline information and high-level plan provided by the client and the principal contractor for suppliers' safety planning. The document will be updated as needed as the annual shutdown progresses.

In this document, Boliden Harjavalta Oy is referred to as Boha, and the construction site as VH2027.

At Boha's annual shutdown site, the electronic Zeroni system is used to meet statutory obligations. The system is used, among other things, to submit employee notifications to the tax authority and to provide up-to-date personnel lists for the site to the Regional State Administrative Agency, while also ensuring that the entire subcontracting chain meets client liability requirements. For suppliers, the system provides a platform for managing and maintaining the qualifications and personal data of their own employees and subcontractors. The service helps ensure that only qualified workers and reliable partners are working on site. Zeroni's permitting process streamlines employee authorization for the annual shutdown site and supports the management of qualification data, safety clearances, and access and vehicle permits.

The work performed during the annual maintenance shutdown differs significantly from typical construction work. Within a short time frame, the site carries out numerous projects as well as maintenance and service tasks. Coordinating these activities is critical to completing the project safely.

This safety document presents Boha's general hazards and harmful factors for the 2027 annual maintenance shutdown, along with the measures required to control the risks they create. The supplier must take this into account when planning and performing annual maintenance work and must prepare appropriately by complying with applicable occupational safety laws, regulations, and official guidance. This safety document also includes safety obligations and procedures issued by Boliden Harjavalta that the supplier and its subcontractors must follow in all work covered by the contract. The safety plan prepared for the annual maintenance shutdown further specifies the safety obligations and procedures described in this safety document.

Ensuring safety must be addressed during the planning, contracting, and execution phases. This safety document supplements the work-performance requirements set out in other contract documents. For the client This document and any related documents do not transfer any supplier obligations, nor does this document reduce or remove the safety measures defined elsewhere for the construction and installation project.

The contractor-related content of this safety document also applies to work agreed under other supplier contracts. **A supplier acting as the client within the subcontracting chain must attach this safety document to every contract they award.**

The baseline expectation is that every party involved in the construction and installation project understands the requirements of occupational safety legislation and works in compliance with them. Contractors must be familiar with the common and typical hazards associated with construction and installation work. This safety document is not a general list of construction hazards and harmful factors.

Every company working on site must follow the client's occupational safety instructions and, at its own expense, participate in the client-provided site orientation and safety training.

For all work, adequate advance planning, thorough risk assessments, and work tasks that are prefabricated/prepared as far as possible are prerequisites for safe operations. No risk is acceptable in the way work is carried out.

2 Safety Objectives and Principles

Safety is the foundation of everything we do. Safety isn't only about following rules, it's about caring. We care about one another, our work community, and making sure each of us gets home healthy at the end of the day. Developing leadership and engaging employees are grounded in our values: care, courage, and responsibility. These are also key drivers for continuous improvement and a strong safety culture. Boliden Harjavalta's Safety rules:

1. Keep a good attitude—don't rush
2. Knowing your job, spotting the risks
3. Move safely

the goal is to ensure a safe workday for each of us, so we can go home healthy every day.

The foundation of safety management is that, in construction and installation projects, all parties—Boha, designers, suppliers, their subcontractors, and independent workers—must work together and each take responsibility for ensuring the work does not create danger or harm to employees or to anyone else affected by the work.

3 Contact Information

Client, developer, and principal contractor:

Name: Boliden Harjavalta Oy; in this document, the abbreviation Boha is used

Address: Teollisuuskatu 1, 29200 Harjavalta

Tel.: 02 535 8111

Annual shutdown manager:

Markus Haavisto

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Email: markus.haavisto@boliden.com

Construction site safety coordinator:

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Email: tanja.lilja@boliden.com

Annual Shutdown Coordinator:

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Occupational Safety Representative:

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Fire/Rescue/Security Lead:

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Project Delivery Manager:
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Mechanical Maintenance (RHT and Concentrator)
Antti Salminen
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Email: antti.salminen@boliden.com

Mechanical Maintenance – Smelters
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Electrical Maintenance Manager Jari Holmberg (also power distribution)
Tel: 040 1677505
Email: jari.holmberg@boliden.com

Worksite Responsible Persons:

Concentrate Warehouses, Unloading Station: Teemu Nordlund 0407611307

Copper Smelter: Jaakko Korpela, 0407611307

Anode Furnaces, Converting, Foundry, and Cranes: Eero Siitari, 0401930159

Nickel Smelter: Tommi Veneranta, 0503770097

Sulfuric Acid Plants: Annika Salonen +358406610614

Slag Concentrator: Eemeli Grönmark, 0406370726

By-Product Plants: Jukka Tähkä, +358400598410

4 Work area and site conditions

4.1 Construction and Installation Site

Annual maintenance work takes place at multiple locations throughout the Harjavalta Industrial Park, each with its own specific characteristics. The official address for all work locations is Teollisuuskatu 1, 29200 Harjavalta.

4.2 Nearby operations and activities

The Industrial Park area includes multiple operators, and Boha's production facilities are also located in different parts of the Industrial Park. Dozens of different companies operate in the area on an ongoing basis, and their operations must not be disrupted by the annual maintenance work. In addition, nearby residential areas, road and rail traffic, pedestrian and bike routes, and other factors not directly related to the annual maintenance work, but must be considered.

4.3 Use of the worksite area

Everyone working at the site must pay special attention to temporary traffic arrangements caused by construction/installation work, so that normal operations in other buildings within the plant area are not disrupted. Access to the worksite is permitted only via marked routes. During the annual maintenance shutdown, traffic and access routes, restricted areas, and other unusual arrangements are published on the Industrial Park Intranet annual maintenance site.

Long-term vehicle parking is kept to a minimum due to limited parking availability.

5 Safety responsibilities of the various parties

5.1 Safety responsibilities of Boha as the owner/client and principal contractor

Boha serves as both the principal contractor and the owner/client for the VH2027 project. On a shared worksite, the principal contractor is responsible for ensuring that all VH2027 activities are planned and carried out safely, taking into account site-specific risks, work phases, scheduling of those phases, and occupational safety and health factors related to the work environment. The principal contractor must, as appropriate, eliminate hazards and harmful factors and, when they cannot be eliminated, assess their significance to the safety and health of those working on the site and others affected by the work.

Boha ensures that the work does not create danger or harm to the site's employees, processes, equipment, structures and/or buildings, or to people outside the worksite. Boha is obliged to provide all necessary information to those carrying out the work, including the suppliers' occupational safety representatives.

The Project Owner (Boha) prepares the construction work safety document referred to in Section 9 of Government Decree 205/2009, along with task-specific plans, safety instructions for the construction site area, and site use plans. In addition, the shared safety rules of the Harjavalta Industrial Park are followed. Boha's safety responsibilities include:

- Communicating risks to support the contractor's safety planning

- Onboarding and safety orientation for workers
- Filling required notifications with authorities
- Site maintenance and condition inspections

Boha is responsible for jobsite safety, traffic and pedestrian flow arrangements, other overall planning, and the general safety and health conditions of the site. Boha ensures the site-wide management needed for safety and health, organizes coordination and information flow between parties, aligns activities, and maintains overall site cleanliness and safety. Boha also coordinates suppliers' work and activities so that simultaneous tasks do not create safety risks for one another.

5.1.1 Safety Plan (=Safety Instructions for the Construction Site Area)

The safety plan is a document that describes how jobsite safety is arranged in practice and how risks are managed throughout the project.

5.1.2 Work-Site Specific Plan

The task-specific work plan must include:

- The most critical tasks for each work area that could affect other phases of work on-site
- Process-related risks for that specific work area
- PPE requirements/tools that differ from the general safety instructions

5.1.3 Site Orientation

Boha must ensure that all external workers have been oriented to the required safety instructions and the job risk assessments before work begins. This is documented by confirming the site orientation in the Zeroni electronic system. At a minimum, the site orientation must verify the following work-area-specific details:

- contact information
- general arrangements
- risks
- PPE, prohibited tools
- permit and inspection practices
- emergency preparedness

5.2 Supplier Safety Responsibilities

The supplier is responsible for ensuring that work-related risks are identified and addressed during both planning and execution. The supplier is also responsible for ensuring that everyone in its own workforce and its subcontractors' workforce complies with applicable laws and regulations and has been briefed on the required safety instructions and the job-specific risk assessments before arriving at the worksite.

Suppliers must commit to complying with the requirements of this shutdown worksite safety document as well as Boha's safety requirements. They must participate in safety walks and site meetings as needed. Suppliers are responsible for ensuring that their employees have the necessary training/qualifications for the work.

The supplier must appoint a **site supervisor** who ensures that its employees and its subcontractors' employees are properly informed about the safety regulations and that compliance is monitored. Site supervision is responsible for making sure their workers understand the risks involved in their tasks. The supervisor ensures that subcontracted work is adequately organized, overseen and cooperates with Boha's shutdown organization.

For the work to be performed, a **hazard identification and risk assessment** must be prepared in accordance with the Occupational Safety and Health Act 738/2002. The risk assessment must pay particular attention to the hazard factors described in Section 7 and also identify any other hazards and harmful factors arising from the work. The assessment must cover the entire work cycle, from preparatory steps through final cleanup. The risk assessment must include identifying hazards to individuals and evaluating the magnitude and severity of the risks. In addition, it must describe measures to eliminate or control the risks and how it will be ensured that any residual risks remain at an acceptable level.

The Supplier must also prepare a separate **safety plan** if the work involves the specific hazards (high-risk work) listed in the following section that may affect an employee's safety or health.

Risk assessments and safety plans must be uploaded to the electronic Zeroni system well in advance of the start of work. **Sufficient time must be reserved for reviewing, commenting on, and signing the documents. Proper risk assessments and safety plans are one of the prerequisites for obtaining a work permit.**

When using foreign labor, the Supplier must always ensure that there is at least 1 person/crew on site who can communicate clearly in either Finnish or English. If needed, the Supplier must arrange an interpreter at its own expense for the site and for orientations. Boha's annual shutdown orientation materials are available in Finnish and English.

5.2.1 Safety Plans for Contractors and Subcontractors

The safety plan, including the risk assessment, must cover work that involves special hazards to an employee's safety or health, such as:

1. Work where employees face a risk of being buried by a cave-in, sinking into the ground, or falling from height—where the risk is particularly high due to the nature of the work, the methods used, or conditions at the work location or job site.

2. Work where employees are exposed to chemical or biological agents that pose a specific risk to employee safety and health, or that require periodic health monitoring (e.g., asbestos work).
3. Work involves ionizing radiation that requires designated or controlled areas to be marked in a specifically prescribed manner.
4. Work is performed near high-voltage cables and power lines.
5. Work is carried out in confined, enclosed, or electrically conductive spaces.
6. Work covered by the Pressure Equipment Directive.
7. Work involving the use of explosives.
8. Work involving the assembly or dismantling of heavy prefabricated components.
9. Demolition involves structures, structural elements, or materials.
10. Work in railway areas. *For more information, see the Industrial Park guideline: Rail Work Instruction (fin).*
11. If dust generated during construction/installation is assessed to contain silica-bearing dust, the contractor must prepare a separate dust control plan.
12. Work that includes demanding lifts or hauling operations.

The items in the contract-specific safety plan may be presented, for example, in the project plan, which must cover at least the following work phases:

- Work methods
- Worksite arrangements for the contract scope (if not addressed elsewhere, for example in the principal contractor's site plan)
- Taking into account construction/installation work with other processes in the plant area and with the activities of third parties
- Use of machinery and equipment

5.2.2 Use of subcontractors or independent contractors

The supplier registers the subcontractors it uses in the electronic Zeroni system. Boha reviews the purchaser liability documentation for the added subcontractors and may refuse the use of a subcontractor.

If a subcontractor has not appointed its own supervisor for the annual shutdown who is responsible for safety duties and work safety, then responsibility in those cases rests with the supplier. Each subcontractor and independent contractor must comply with the Occupational Safety and Health Act and the regulations issued under it, as well as Boha's safety rules and operating procedures.

5.3 Designers' Safety Responsibilities

Designers must ensure in their plans that every planned work phase can be carried out safely, and that occupational safety is built into all stages of the design process.

Each designer is responsible for ensuring that all designs within their discipline take into account applicable occupational health and safety legislation and regulations, together with the requirements of the Finnish Government Decree on Construction Work (205/2009). They must comply with the provisions of the Occupational Safety and Health Act and the regulations issued under it, along with BOHA's safety rules and operating procedures. The plans must also account for the plant's ongoing normal operations, unless operations are fully shut down for the duration of the work.

The designer must raise any occupational safety issues they identify in design meetings and ensure that all safety-required items are included in the design documentation.

6 Safety practices

6.1 Safety Plans and Documentation

This safety document is sent to suppliers as part of the request for quotation. The contents of the safety document, along with other key matters affecting contract safety, will be reviewed with suppliers no later than the kickoff meeting or the work coordination meeting.

Supplier-prepared risk assessments and safety plans must be documented in the Zeroni electronic system well in advance of the start of work. Boha reserves the right to require changes to the content of the plans. Appropriate safety plans are one of the prerequisites for obtaining a work permit.

6.2 Instructions for Suppliers

The Industrial Park intranet's annual shutdown page includes safety instructions for the shutdown worksite, along with other general guidance:

- Schedules (shutdown and startup dates/times, access permit container, central warehouse, food services)
- Production utility outages
- Annual shutdown organization
- Work at height
- Lifting operations
- Scaffolding safety
- Confined space work
- Hot work
- Rail work
- Excavation Work
- Battery-Powered Equipment Safety
- Tool Container Requirements
- Preparing a Dust Control Plan
- Electrical Distribution Safety

- Lockout/Tagout Practices
- Waste Sorting Instructions and Collection Points
- Site Waste Management
- Wash-Water Samples for the Annual Shutdown
- Scrap Yard Operating Instructions
- Area Boundaries and Pedestrian/Vehicle Routes During the Annual Shutdown
- Lifting Area Map
- Instructions for Oil Spill Situations
- Instructions for Accident/Emergency Situations
- Shelter Areas, Assembly Points, and AEDs
- Testing for Intoxicating Substances
- Consequences for Violations (intoxicating substances, traffic and access control)
- Safety Rules
- System User Guides (MIA, Zeroni)

6.3 Meeting Procedures

A kickoff meeting, or a coordination meeting to align the work, is held before work begins. During the work and after it is completed, progress follow-up meetings are held as needed. Boha invites participants to the kickoff meeting. The meeting format and, if needed, who will convene future meetings are agreed in more detail at the kickoff meeting. In every meeting, occupational safety is included as a separate agenda item.

6.4 Inspections and Worksite Safety Oversight

Boha conducts a safety inspection at each worksite at least once a week, using an appropriate inspection method. Responsible persons must be assigned for any safety deviations, and issues must be corrected immediately. Fall protection compliance is 100%. Follow-up on deviations is included in the meeting practices.

The Supplier and its subcontractors must ensure continuous safety monitoring and oversight so that, among other things, the safety of work methods, the work environment, traffic arrangements, and work machines and equipment—for employees and anyone affected by the work—can be ensured throughout the project.

Tools and machinery, as well as other construction and installation equipment, must be fit for purposes and meet all occupational safety requirements. Contractors must verify the condition and suitability of the machines and equipment used on site for their intended use at the time. For every work machine and technical device brought to the site—as well as scaffolding and lifting equipment and lifting accessories, the Supplier must perform a commissioning inspection before work begins. **Inspection records must be documented in the electronic Zeroni system.**

The condition of work machines and technical equipment must be monitored throughout the entire job, for example, through regular maintenance inspections—and any deficiencies found must be corrected immediately. If an immediate fix is not possible, the machine or device must be taken out of service or replaced with a new one for the duration of the repair.

Scaffolding, the access walkways leading to it, and protective structures are subject to commissioning, acceptance, and weekly inspections. More detailed guidance for scaffolding work is provided in the *Industrial Park scaffolding work instructions (fin)*.

6.5 Coordination

Boha is responsible for coordinating the work and communicating project-related information. At the site, industrial operations nearby—and the related processes, material flows, and the chemicals and gases in use—must be taken into account.

6.6 Work planning and monitoring

Before starting the work packages, Boha plans the execution of the various tasks and work phases, and their scheduling so that the work and work phases can be carried out safely, without creating a hazard to those working under the contract or to others affected by the work.

All other parties must follow the master schedule and working hours. Tasks that are critical to progress must be scheduled so that sufficient contingency is built in for disruptions caused by changes in the work or conditions.

6.7 Employees' Right to Work and Site Permits

Section 13(3) of the Government Decree on Construction Safety requires the principal contractor to ensure it has up-to-date information on all employees and self-employed contractors working on the site. To enable the principal contractor to meet this obligation, employers must provide the principal contractor with the necessary details about their employees and, for their part, about any self-employed contractors working on the site.

Each employee must apply for a separate site permit authorizing work at the VH2027 construction site. A site permit is required even if the person already holds a valid access pass for the Industrial Park area. Boha may assign the right to monitor site permits to a third party, such as plant security or the permit office of the Zeroni system.

To obtain a site permit, the Industrial Park's general safety orientation must be valid, the annual maintenance orientation must be completed, a valid Occupational Safety Card is required, and the person must have a Finnish tax number. For foreign nationals, the right to work in Finland must also be in order. If deficiencies are found when verifying employees' right to work, the applications will be returned to the company's contact person. When all requested corrections

Once the company has confirmed completion, the processing of the site permit can be finalized.

Boha accepts the occupational safety cards commonly used across Europe, including cards completed through distance learning.

Allow enough time to verify employees' rights to work and to obtain the site permit; therefore, apply for the site permit via the electronic Zeroni system as soon as possible.

Everyone working on the site must carry a visible, photo ID badge while moving around the work area. The badge must indicate whether the person is an employee or an independent contractor, and it must also clearly display the individual's personal tax number. An employee's badge must show the employer's name. However, a person temporarily delivering goods to the site does not need to have a badge. The tax number must be registered in the tax number register.

6.8 Information for the Tax Authority

Boha is responsible for submitting the information to the Tax Authority.

6.9 Permit-Required Work

Contractors must ensure that everyone working on-site has the appropriate qualifications and hands-on experience for permit-required tasks (including electrical work, welding, elevator work, hot work, lifting operations, and blasting).

A written work-permit system is used throughout the plant area. All annual maintenance work is planned well in advance of the shutdown, and a separate work permit must be obtained for each job.

6.10 Boha's oversight rights

Boha's designated representatives—such as the safety coordinator and the occupational safety representative—have the right to conduct safety-related inspections and reviews at the work site at any time. If the work is considered to endanger health, life, or the environment, Boha's representatives have the right to stop the work they deem hazardous.

Boha's representatives also have the right to set a deadline for correcting noncompliance. If the issue is not corrected within the specified time, Boha may refer the matter to the occupational safety authorities for handling.

Any deficiencies identified by Boha's designated representatives that compromise workplace safety must be corrected immediately, as must any shortcomings that could pose a risk or cause serious harm to other parties affected by the work site.

6.11 Addressing Safety Noncompliance

Whenever safety lapses are observed, everyone working in the workplace is obligated to step in to ensure work is carried out safely.

Addressing workplace safety violations — procedure:

1. Verbal notice and a serious discussion; record the incident in the site logbook or in the deviation management system (MIA).
2. For a second similar violation, remove the individual from the site for the remainder of the day; record the incident in the site logbook and submit a written complaint to the person responsible for the contract. The contractor's CEO must provide the Annual Shutdown Manager with a written report on corrective actions.
3. For repeated violations, permanently remove the employee from the site; record the incident in the site logbook. Loss of access badge/work ban will remain in effect for at least one year.
4. In the most serious cases, the consequence may be termination of the contract and the company being barred from operating at Boliden Harjavalta worksites.

In a serious workplace safety violation where there is a clear risk of an accident —such as failing to use fall protection or unauthorized movement within a restricted lifting area the consequence is a **warning**. The warning is issued by the person's supervisor or the person responsible for area oversight. A second violation **results in an immediate work ban** within the Industrial Park area. Loss of access badge/work ban will remain in effect for at least one year.

If the violation involves *the use of alcohol or drugs, or breaking traffic rules, the Industrial Park has separate instructions for these situations(fin)*.

6.12 Reporting and documentation of damages

The Supplier must notify and report any workplace injuries, property damage, environmental damage, and "near-miss" incidents occurring at the site to the Safety Coordinator, the Turnaround Manager, the Installation Supervisor, or the site contact person. Workplace injuries and environmental damage must be reported immediately, or as soon as reasonably possible. An incident investigation must also be initiated without delay. A representative of the BOHA turnaround organization and the Safety Coordinator must take part in the root-cause investigation.

A root-cause investigation must be conducted at a minimum in the following cases:

- fatalities
- injuries resulting in inability to work or requiring medical treatment
- serious hazardous situations

- fires/ignitions
- significant near-miss incidents

When required, workplace accidents are reported to the occupational safety authorities and to the Finnish Safety and Chemicals Agency (Tukes) in accordance with Boha's procedures. Suppliers are required to report serious accidents involving their personnel to the occupational safety authorities.

6.13 Housekeeping and Order at the Worksite

Work areas must be kept neat and orderly. Waste and any other unnecessary items that accumulate in the work area must be moved immediately to the designated locations. Each supplier is responsible for keeping their own work area clean and organized during working hours so that more thorough cleaning of the area can be carried out. Each supplier must clean up and transport construction, installation, and packaging waste daily to the designated locations. Waste must be sorted in accordance with Boha's sorting instructions.

Installation supplies and materials must be stored in the locations specified in the worksite plan or other contract documents, or indoors, and adequately protected to prevent damage. When choosing the container's location, ensure it does not pose a traffic hazard and does not create a risk to other containers or buildings in the event of a disturbance or fire. Emergency access routes must not be blocked. The container must be labeled in accordance with Boha's instructions.

Contractors must keep their workstations, support areas, and the surrounding areas clean and orderly. Placing a tool or storage container in the area requires a permit.

Boha arranges regular cleaning for the site trailers used as break rooms for suppliers.

Boha is responsible for ensuring that waste containers are properly removed from the work area in accordance with its own instructions and standards.

6.14 Actions in the Event of an Accident

General procedures for emergency situations are covered in the Industrial Park safety orientation. This orientation must be refreshed annually. A valid orientation is required to obtain an access permit. Safety instructions are also available in the *Industrial Park safety bulletin and the Industrial Park internal emergency response plan (fin)*.

If an environmental incident occurs, immediate action must be taken to prevent and limit the release of harmful substances into the environment. Any environmental impacts (for example, oil) must be removed and cleaned up. General guidance can be found in the Industrial Park internal emergency response plan.

To ensure prompt first aid, the contractor must also provide their own first-aid supplies (eye-wash stations/bottles, first-aid kit) for their personnel. If the contractor has an on-site office trailer, it must also be equipped with an appropriate first-aid kit, and the contractor must have staff trained in first aid.

Important phone numbers for emergencies:

- 112 GENERAL EMERGENCY NUMBER
- (02) 535 8112 Emergency number for the Industrial Park main gate

The caller must provide their name, the reason for the emergency, and the exact location as precisely as possible. The Industrial Park main gate must always be notified immediately after placing an emergency call to the general emergency number.

7 Special Hazards and Preparedness for the Annual Maintenance Worksite

This section will compile (late) the specific hazards associated with the annual shutdown maintenance site. The goal of the risk assessment is to systematically identify, among other things, tasks within the project that involve particular risks, as well as hazards and harmful factors related to the work's characteristics, conditions, nature, and execution.

Hazards and harmful factors are those that require additional action, for example, further investigations or more detailed plans from Boha and the suppliers. Supplier-specific requirements must be taken into account during procurement discussions and at the tender/bid stage.

Safety Instructions for the Construction Site Area describe how site safety will be organized in practice and how risks will be managed throughout the construction project. The document is attached to this Safety Document as an appendix.

Safety Instructions for the Construction Site Area

Safety Instructions for the Construction Site Area

1 General Information

This safety plan complies with VNa 205/2009 and also serves as the site utilization plan. This document builds upon and supplements the Safety Document created for the Annual Maintenance Project. The plan focuses on the most important occupational safety issues to ensure that work can be carried out as safely as possible, minimizing uncontrolled risks. The safety instructions describe how site safety is organized in practice and how risks are managed during the project.

Different tasks and work phases must be coordinated so that they do not pose a danger or cause unnecessary inconvenience to any party involved. The responsibility for coordinating the work lies with the designated person in charge of the site.

In addition to this plan, all other workplace safety guidelines, regulations, and Finnish labor laws and safety requirements must also be followed.

2 Construction Site Information

The 2026 Annual Maintenance is a construction project commissioned, developed, and managed by Boliden Harjavalta (referred to as Boha). Maintenance work will take place at multiple locations within Harjavalta Industrial

Park, each with its own unique characteristics. The official address for all work sites is Teollisuuskatu 1, 29200 Harjavalta. The estimated duration of the project is 11 to 15 days.

The Industrial Park is home to several companies, and Boha's production facilities are spread throughout the area. Dozens of different businesses operate here daily. It's also important to consider the surrounding residential areas, road and rail traffic, pedestrian and bike paths, and other factors not directly related to the annual maintenance work. The boundaries of the work site are shown on a separate map, available on the STP Intra Boliden [annual maintenance webpage](#).

3 Safety Objectives

Safety is the cornerstone of everything we do. It's not just about following the rules—it's about caring for each other. We look out for one another, our team, and ensure that everyone returns home healthy at the end of the day. Our approach to leadership and employee engagement is grounded in our core values: care, courage, and responsibility. These are essential to our ongoing improvement and the strong safety culture we strive to build at Boliden Harjavalta.

1. Keep a positive attitude, don't rush
2. Knowing your job, recognize the risks
3. Move safely

It aims to make sure every one of us has a safe workday, so we can all go home healthy each day.

4 Work Safety Plan

All work must include hazard identification and risk assessment according to Occupational Safety Act 738/2002. Risk assessment must include identification of personal hazards, evaluation of risk magnitude and

severity, and assessment of residual risk after corrective actions. Measures for eliminating or managing risks must be described in detail to ensure residual risks remain at an acceptable level.

Depending on the scope of work, it will be determined case by case whether the maintenance system (Maximo) risk assessment procedure is sufficient, or if a more comprehensive assessment (MIA system) and post-action residual risk evaluation are required.

4.1 Electronic Zeroni System

Suppliers must use the Zeroni system's Occupational Safety Plan (TTS) tool for job risk assessments. This assessment should also cover all work and phases performed by subcontractors. Alternatively, a risk assessment created using the supplier's own template can be attached, if it includes the same required information. All risk assessments and safety plans must be uploaded to the electronic Zeroni system well in advance of starting work.

Both the Bohan representative/contact and the safety coordinator must review and approve these documents. Proper risk assessments and safety plans are mandatory requirements for obtaining a work permit.

4.2 High-Risk Tasks

Suppliers must also prepare a separate safety plan if the work involves specific hazards (high-risk tasks) that could impact on the safety or health of workers. These plans should be included with the risk assessment prepared using the TTS tool.

The safety plan and risk assessment must cover all tasks that present dangers to worker safety or health, including but not limited to:

- Tasks where workers may be at risk of being buried by a collapse, falling into the ground, or falling from heights due to the nature of the work, the methods used, or the conditions of the site or workplace.
- Tasks where workers are exposed to chemical or biological substances that pose special risks to health and safety, or where periodic health monitoring is required (such as work involving asbestos).
- Tasks involving ionizing radiation that require specifically marked or controlled areas.
- Work is performed near high-voltage power lines or cables.
- Tasks carried out in confined, enclosed, or conductive spaces.
- Work governed by the Pressure Equipment Directive
- Tasks involving the use of explosives.
- Jobs that include assembling or dismantling heavy refabricated components.
- Demolition involves structures, structural parts, or materials.
- Work conducted in railway areas. For more information, see Suurteollisuuspuisto's guidelines: [Rail Work Instructions](#).
- If it's expected that dust generated during construction or installation may contain substances harmful to health, the contractor must prepare a separate dust control plan.
- Jobs that involve complex lifting or hauling operations.

5 Site Organization

5.1 Access, Emergency Routes, and Vehicle Traffic

Everyone working at the site must pay close attention to temporary traffic arrangements caused by construction or installation, ensuring that normal operations in other buildings on the plant grounds are not disrupted. Entry to the site is only allowed via routes marked on the site map. Information regarding traffic, walking paths, restricted areas, and other special activities during annual maintenance can be found on the Suurteollisuuspuisto Intranet maintenance site. Roads used by excavators, trucks, cranes, and similar equipment on site must be kept open and clean. An emergency access route must be established within the site and always kept clear.

Any changes to access routes and their impact on local emergency routes must be reviewed, especially if fencing or other measures could affect vehicle movement during an emergency. The industrial fire brigade's duty personnel must be informed of any deviations from standard emergency routes.

To make the most of our limited parking spaces, long-term vehicle parking should be kept to a minimum. Driving permits for annual maintenance are intended for short visits and must be based on the need to transport tools or materials onto the plant grounds. Since traffic for work sites differs from regular area traffic, warning lights should be used as needed for safety.

Each supplier is responsible for ensuring that stairs, walkways, bridges, and floors are kept free of risks such as falling, slipping, or tripping. Avoid unnecessary movement within the worksite whenever possible. The site is secured with flags, safety barriers, or similar methods to prevent people from accidentally entering hazardous areas, like unprotected openings or lifting zones. A sign must be placed on the barricade clearly stating the name, company, and phone number of the person in charge of the restricted area. In addition to the barrier, proper supervision of the area is required. Once the restriction is no longer needed, it should be removed immediately.

5.2 Storage and Waste Management

Unnecessary storage at work sites should be avoided. All waste must be removed from the site and disposed of according to Boha's waste management and sorting guidelines. Boliden Harjavalta is responsible for organizing waste management in the plant area. A separate map of waste collection points is available. Boha handles the proper removal of waste bins from the work area. More detailed sorting instructions and information about using the scrap yard can be found in separate guides, which are available on the [STP Intranet Annual Maintenance site](#).

5.3 Electrical Safety and Lighting

When powering the worksite area, rely as much as possible on the permanent site distribution centers available. Any extension cords and additional distribution boxes required must be suitable for the specific conditions of the worksite. For lighting, use the fixed fixtures on site to the greatest extent possible.

The responsibility for acquiring additional equipment is defined in the contracts. The party that brings, orders, or owns the equipment is primarily responsible for its maintenance. All electrical installations must meet current electrical safety regulations (SFS6002). Equipment or components that are live must be clearly marked and fitted with contact protection. In conductive environments (such as confined or enclosed spaces), only tools with an isolation transformer may be used.

All electrical distribution work must follow the Suurteollisuuspuisto guidelines: [Instructions for Electrical Distribution Related Work and Connections](#).

5.4 Weather Conditions and Protective Measures

While we can't control the weather, we can take steps to prevent or minimize its impact on our work. Never work on poles or in lift baskets during thunderstorms or when there's a risk of lightning.

Wind conditions must always be considered when working outdoors or performing lifts. Always assess the wind on-site, especially when lifting large objects.

6 Personnel Safety

6.1 Personal Protective Equipment and Gear

Contractors must provide their staff with an adequate supply of appropriate personal protective equipment for each worksite and ensure that all required protective gear is used as specified. Training for staff should highlight that proper use, maintenance, and storage of protective equipment extend its service life.

Employees are required to wear personal eye, respiratory, and hearing protection, safety helmets, protective footwear, and gloves appropriate for their tasks and work environment. When working in production areas, a hand-held or helmet-mounted flashlight must be carried. Protective equipment requirements for each worksite are detailed in the department or area-specific worksite plans. Due to potential gas hazards, anyone moving within the plant must carry a respirator equipped with a combination filter (protection class ABEK P3), and it must be ready for immediate use.

For all tasks where there is a risk of falling, only inspected and approved fall protection gear suitable for the work must be used. Working from personnel lifts always requires the use of safety harnesses.

6.1.1 Helmet

A safety helmet must always be worn during construction work (VNa 205/2009) and in any job where there is a risk of head injury. Helmets should be replaced according to the manufacturer's recommended lifespan. The person in charge of the site may require stricter helmet use in their guidelines than what's generally mandated, and these instructions must be strictly followed. For welding work, helmet requirements are assessed case by case, based on a risk assessment for the job. The agreed procedure must be documented in the risk assessment for the specific work task.

6.1.2 Eye Protection

When moving around factory areas or production facilities, safety glasses must always be worn (except in green zones specified in section 6.1.6). Eye protection shields your eyes from mechanical, chemical, and UV hazards. The right type of eye protection should be chosen based on hazards and a risk assessment for the job.

6.1.3 Safety Footwear

Appropriate protective footwear must be worn at work. Safety shoes should include puncture-resistant soles and reinforced toe caps, as well as ankle support. General safety shoe requirements are set out in standard SFS-EN ISO 20345.

6.1.4 Hearing Protection

Hearing protectors must be worn when working near machinery with a sound pressure level over 85 dB (A). This includes equipment like jackhammers, metalworking machines, and production process devices.

6.1.5 Protective Gloves

Protective gloves are required for jobs where there is a risk of hand injury. Common types include leather, plastic, rubber, and fabric gloves. Plastic gloves are generally preferred over rubber as rubber can sometimes cause skin irritation. Always use gloves when handling substances harmful to the skin or whenever there is a danger of injuring your hands during work.

Cut-resistant gloves are mandatory whenever handling materials that can cause cuts or lacerations due to their sharpness.

6.1.6 Protective Clothing

For better visibility when moving around in civilian clothes, you must wear high-visibility and reflective gear (such as a safety vest, reflective harness, or a backpack made from visible materials). Movement in civilian clothing is permitted only in the green area marked on the map.



Hazard	respiratoryprotection
Exposure, hazardous to health dust	Half-mask respirator, protection class ABEK P3, In exceptional situations, use a disposable filter respirator, protection class FFP3, if risk assessment determines it is sufficient Approval for alternative practices must be granted by the Bohan Annual Maintenance steering group.
Dust that poses a risk of eye injury	Powered filter respirator, protection class ABEK P3.
Sulfur dioxide, concentrate roasting	Half-mask respirator, protection class ABEK P3
Physically demanding, hot, or long-duration work	Powered filter respirator, protection class ABEK P3
Legionella bacteria	Single-use filter respirator, protection level FFP3
STP areagas hazard	Half-mask respirator, protection class ABEK P3

6.2 Workplace Hygiene

The concentrates and dust handled in the Boliden Harjavalta process contain hazardous and carcinogenic substances such as arsenic and nickel. During annual maintenance, dust levels in work areas rise. Surfaces and structures at worksites may have chemicals classified as hazardous, which can be irritating, carcinogenic, or corrosive.

In the sulfuric acid plant area or when the smelter is running, there is also a risk of exposure to sulfur compounds. These can cause coughing, shortness of breath, and watery eyes. Extended physical exertion may also lead to skin reactions. Sweat combined with sulfur-rich, acidic gases can cause mild skin burns. Exposure to harmful substances is minimized by using required protective equipment, washing hands and, when needed, the face before leaving production areas, and changing soiled work clothes for clean ones regularly. Be sure to wash thoroughly before leaving for home. Keep your work clothes and personal clothing separate. It's essential not to take work clothes home for washing to prevent contaminants from spreading beyond the plant.

Substances in the production areas that can harm your health may enter the body through breathing or by transferring from your hands to your mouth when eating or smoking. Only eat and drink in designated break rooms—meals are not allowed in production areas. To avoid exposure to hazardous substances, always wash your hands and, if needed, your face before eating. Leave dirty clothes outside the dining areas and use shoe covers. Good hygiene practices apply even when eating outside the plant. Personal work clothes and protective gear must be cleaned before entering staff areas, and Boha provides a dedicated cleaning station for this purpose.

Smoking is only allowed in officially designated smoking areas.

Contractors are responsible for ensuring the health of all personnel assigned to work at BOHA and must provide their employees with the necessary occupational health services.

6.2.1 Decontamination Container

The decontamination container, located in the smelter area, is available for use throughout the year. On the dirty side of the container, you can wash your hands, clean your shoes, and vacuum your protective equipment. Access to the clean side is through a decontamination cabinet, where respiratory masks are worn. Cleaning efficiency can be boosted with hand-blower devices available on site. The clean side offers facilities for washing hands, cleaning and vacuuming protective gear, and temporary storage for motor masks, including charging options for the masks.

6.2.2 Working in Hot Environments and Staying Hydrated

Certain workstations expose employees to heat stress. This can occur due to a combination of physical effort, high temperatures, and not drinking enough fluids. Eating or drinking is not allowed inside production areas according to hygiene guidelines. Any potential heat stress risk must be addressed in the work permit. If the risk of heat stress is considered high and it's not possible to leave the workstation, arrangements for hydration at the department can be made together with the department's safety representative. Permission for hydration and how it will be managed must be documented in the work permit.

6.3 Workplace Safety Training and Orientation

Every employer is responsible for making sure their staff has the professional skills and safety training required for the job site. Boliden Harjavalta, in turn, ensures that all workers and contractor staff have the necessary skills and safety training to meet the site's standards.

Every company operating on the site is required to participate, at their own expense, in the orientation and safety training provided by the client. If needed, the supplier must also arrange for an interpreter for orientation sessions at their own cost. The annual maintenance orientation for Bohan is available in both Finnish and English.

Required qualifications and orientation programs

Job role/skills	Requirement
Access permit for the STP area	STP General Safety Orientation, valid for 1 year.
Access rights to the Bohan area	A safety card commonly recognized in Europe or a safety card completed via online training
Movement within the Annual Maintenance Worksite	Annual Maintenance Orientation, valid for 1 year
Movement within the production -area	Departmental orientation, valid for 3 years
Work authorization at the annual maintenance site	Site orientation, valid for 1 year
Driving permit for the area	STP driver training, valid for 1 year

First aid	At least one person with first aid skills per work group
Electrical work	Electrical Qualifications, Electrical Safety Card, SFS 6002/
Hot Work	Hot Work Card
Welding Work	Certification according to job site requirements
Work in confined or restricted spaces	Tank Work Card, or equivalent qualification
Forklift and man lift operations	Written driving permit from employer
Work on public roads	Road Safety I and II

6.3.1 Site Orientation

Bohan must ensure that all external workers receive proper orientation regarding required safety instructions and job risk assessments before any work begins. This information must be recorded by confirming site orientation in the electronic Zeroni system. The site orientation process must cover at least the following project-specific details: contact information, general arrangements, risks, protective equipment, prohibited tools, permit and inspection procedures, and emergency preparedness.

6.4 Managing Working Hours and Breaks

Working hours at construction sites in Finland are regulated by the Working Hours Act (872/2019). During annual maintenance, working hours may vary depending on the project and site, but must not exceed the legal limits. Shift work is permitted if the collective agreement allows. Site conditions, such as weather or tight schedules, may affect shifts, but suppliers must still comply with the law and ensure employee well-being.

7 Work Safety

7.1 Working at Heights

A fall is defined as any instance where the body drops more than 0.5 m. Work at heights must comply with the Government Decree on the Safe Use of Work Equipment (403/2008) and the relevant sections of the Construction Work Safety Decree related to working at heights and fall protection (205/2009). The law requires fall protection when working above 2 meters or when a fall could result in a hazardous situation.

7.2 Fall Protection

Any opening that poses a fall risk (30x30 cm or larger) must always be secured. Covers for these openings can be made from plywood, metal plates, or other suitable materials that can withstand at least twice the maximum expected load from equipment, people, or materials. The cover must be fastened or supported to prevent shifting. It should be clearly marked (such as with a red cross) and have a non-slip surface. If the smallest side or diameter of the opening exceeds 1 meter, guardrails and toe boards are required for protection.

A fall protection plan must be prepared for any work involving the risk of falling. A fall is considered to occur when a person drops more than 0.5 meters. When planning work where there is a fall hazard, appropriate fall protection and guardrail solutions must be arranged. If needed, the attachment methods for fall protection systems should be approved by a designer. In addition, there must be a plan in place for rescuing anyone who may fall and be suspended in a fall arrest system.

The supplier must notify the element designer in good time about any required provisions or attachments for safety devices to be installed in the elements. The supplier is responsible for ensuring that, during the installation of the elements, any hazards caused by falling building parts or tools are eliminated with protective structures, required toe boards, and, if necessary, by sealing off the danger area with a safety fence, tape, or similar barrier. If guardrails are removed, safety harnesses must be used in accordance with regulations.

The installation supplier is responsible for providing fall protection during the installation of elements. Safety harnesses must be used during element installation if guardrails are not installed or have been removed.

7.3 Lifting Operations and Heavy Transfers

All lifting and transporting activities must follow current regulatory guidelines and legislation. Every lift should be carefully planned, and a risk assessment must be completed to ensure the safety of all workers involved.

Begin planning a lifting operation with a thorough risk assessment. This process should identify potential hazards, such as equipment overload, ground stability, parts falling during the lift, communication errors, risk of workers being trapped, and structural weakness of the item to be moved. Before starting any lifting work, confirm that all equipment and accessories have been inspected, are adequately rated, and are properly installed and supported. Additionally, make sure to:

- Only qualified personnel are permitted to perform lifting operations.
- Clear communication is essential: use hand signals or radios to direct lifts.
- The area must be cordoned off to prevent unauthorized access during lifting.
- Structural integrity must be checked: ensure no part is rusted, cracked, or otherwise compromised.
- If needed, prepare a rescue plan for the duration of the lift.
- The person securing the load must have the necessary skills and ability to do so safely.

Document all the above-mentioned safety measures in the lift plan. A lift plan is required for any demanding lifts, such as moving unusually large or heavy items, lifting objects with awkward shapes, working in challenging conditions, or lifts involving two or more cranes, as well as other uncommon scenarios. Lift and transfer plans must be stored in the Zeroni system under Documents for company records. Inspection reports for lifting accessories should also be uploaded to the Zeroni Documents section.

The crane operator is responsible for preparing the lift plan. Both the lift plan and the assembly record must be available in the crane.

7.3.1 Lifting Operations Using Lifting Accessories

There are four main types of lifting accessories commonly used: wire rope slings, chain slings, lifting straps, and covered slings (lifting slings). Lifting hooks and shackles must be locking type (SFS 4764). Safe lifting can only be carried out with equipment and accessories that are in good condition, properly sized for the job, and have been inspected. The sling angles must be less than 120°.

Before starting a lift, check the following:

- Weight of the item to be lifted
- Center of gravity of the item
- Load capacity and angles of the lifting accessory
- Reliable attachment point for the lifting accessory
- Condition of the lifting accessory and inspection markings
- No unauthorized persons in the lifting area
- No one under the suspended load
- Lifting signals used and agreed upon with staff

The lifting accessory must be discarded if:

- The wire rope sling has broken strands, visible damage, or wear
- The chain sling shows deformation, stretching, or wear
- More than 10% of the lifting strap's warp threads are broken, or the weft threads are broken over more than 5 cm
- The protective fabric of the covered sling is damaged

7.3.2 Personnel Lifting Operations

Only equipment and baskets specifically designed and approved for personnel lifting may be used. Before the lift, the supervisor responsible for the lifting operation must check and confirm the following:

- The lift operator holds a valid permit from their supervisor
- The operator has received adequate training for using the lift
- All required safety gear is in proper working condition
- Everyone knows the signals to be used
- Electrical safety rules (including clearances) have been followed
- Personnel lifts are always considered high-risk operations, so a separate lift plan must be prepared

Safety harnesses must always be worn in lift baskets, boom lifts, and scissor lifts to prevent falls. The work area for the personnel lift must be clearly marked off with barrier tape or fencing to keep others out. If there is any risk that minimum safety distances will not be maintained, a dedicated spotter must be used. If using a crane or forklift not specifically designed for personnel lifting, the following additional requirements apply:

- If the crane in use is a tower crane, a vehicle-mounted crane with a lifting capacity exceeding 5 tons, or a loading crane with a load moment over 25 ton-meters intended mainly for tasks other than loading, the operator must have a valid professional qualification or have completed a relevant part of it. Alternatively, the operator must hold a special permit issued by the local occupational safety authority to operate the equipment.
- For other types of cranes and forklifts, the employer will issue a separate discretionary permit for operation.
- The crane and the lifting basket have been inspected at the required intervals
- The crane's lifting capacity is sufficient

7.3.3 Lifting by Hand

Lifting heavy objects manually can put your back at risk. Most injuries can be avoided by using proper lifting techniques:

- Keep the load as close to your body as possible
- Maintain a straight back. Lift using your leg muscles.
- Do not twist your torso while lifting

7.4 Scaffolding and Ladder Work

Scaffolding must be ordered from an approved supplier. The person placing the order determines the location, height, and other details for the scaffolding. Scaffolding needs are identified and scheduled during work planning and should be ordered in advance so that everything is ready at the site before work begins.

The supplier is responsible for ensuring the scaffolding complies with the Suurteollisuuspuisto guidelines. All work and protective equipment must meet construction and installation safety standards at the job site. The preferred option is modular scaffolding with usage instructions. If the scaffold is assembled from different manufacturers' parts, a dedicated user manual and structural plan must be created. A separate structural plan is also required if no combination instructions exist or if the guidelines provided are not followed. When setting up the scaffold, special attention must be paid to the base, which should be reinforced if needed to prevent sinking. Tall scaffolds must be braced at the top to fixed structures. Scaffolding must not be used unless it has a valid inspection card showing it has passed both initial and acceptance inspections. Weekly inspections are the responsibility of the supplier, while the acceptance inspection is handled by the person who ordered the scaffold. A representative of the order must verify the scaffold is safe and suitable for both the location and the planned work.

If the scaffold does not have an inspection card or required inspections are missing, it must not be used. The user is responsible for keeping the scaffold clean and tidy. The scaffold should be dismantled immediately after work is completed, preferably in one continuous process. Additional instructions can be found in the [Suurteollisuuspuisto Scaffolding Safety Guide](#).

Scaffolding guidelines also apply to platforms and work surfaces made of wood.

Working from ladders is not the preferred method. Movable ladders refer to either leaning ladders or A-

frame ladders. Leaning ladders may only be used for short, one-off tasks. The allowed use of leaning ladders

The angle of use must be between 65 and 75 degrees, and ladders can be up to 6 meters in length. The maximum height for A-frame ladders is 2 meters. Ladders should only be used on stable, non-yielding surfaces.

7.5 Fire Safety and Hot Work

Each contractor must pay special attention to fire safety, ensuring their work does not create a risk of fire and, when needed, take steps to limit any potential damage. Any supplier or subcontractor performing work that could cause a fire is responsible for any damage caused to the client, the property owner, or third parties.

Storing gas or liquid gas cylinders indoors is strictly prohibited. Arrangements for storing and keeping these cylinders, as well as flammable liquids, must be made in advance with the installation supervisor and operations representative.

If penetration must be done in fire-separating walls during work, they must be properly sealed after the task is completed.

Hot work is not permitted unless necessary for the job. The work and required safety precautions must be agreed upon in advance with the person granting the hot work permit before that phase begins. Any hot work carried out at a temporary site in the Harjavalta Industrial Park always requires a written hot work permit. Hot work regulations must first and foremost follow the [Industrial Park Hot Work Plan](#). On construction sites, the main contractor may impose stricter requirements than those stated in the hot work plan. Only individuals with a valid hot work card may perform hot work. Mobile firefighting equipment and fire watch must be arranged according to Boliden Harjavalta's instructions. The hot work operator is responsible for site safety. The permit issuer is responsible for providing correct safety instructions to prevent damage. Fire watch should be ordered in good time. Hot work may not begin until the fire watch is on site and has inspected and approved all safety measures.

7.5.1 Hot Work Permit

For work sites where a hot work permit is required, permits are reviewed and issued by site management. The permit reviewer must hold a valid hot work certification. Only the plant fire chief or their authorized representative can grant permits for roof hot work within the factory premises.

7.5.2 Disconnections

The hot work permit specifies whether fire alarms need to be disconnected during the job. Disconnections are to be requested at the main gate. To process a disconnection, you must provide details about which rooms and alarms are affected. For safety, only the necessary area will be disconnected, not an entire section. A validated permit must be submitted to the gate where the disconnect takes place. Once the hot work is finished, the gate must be notified to reconnect the alarms. If reconnection is forgotten, responsibility lies with the person who requested the disconnection.

7.6 Work within the track area

Track work refers to any task (including maintenance) that:

- is performed when a machine or part of it is within two meters of the outer edge of the track, or directly above the track
- affects the structure of the railway
- interacts with Safety equipment
- requires shunting operations to be interrupted for safety reasons, or otherwise impacts shunting work, or affects the loading or unloading of rail cars.

A track work notification is always required for work on private tracks in the Suurteollisuuspuisto industrial area. The purpose of the notification is to ensure that users of the track system are informed in advance about work taking place, helping to prevent hazardous situations and accidents. Track work notifications are processed at the main gate of Suurteollisuuspuisto. [Track Work Notification](#) can be found on the Suurteollisuuspuisto website. In addition to the notification, a work permit must also be obtained for the job.

7.7 Demolition and Dust-Generating Work Stages

The primary method and goal in dust control is to prevent dust from forming in the first place. Secondary methods include:

1. Reducing the amount of dust produced
2. Limiting the spread of any dust generated
3. Cleaning the area regularly using proper techniques
4. Using personal protective equipment, with at least FFP3-level respirators.

Contractors are required to manage dusty tasks with appropriate containment and local exhaust systems. Dust must be effectively prevented from moving outside the work area. If construction work at the site generates any of the above dust types, the supplier must provide a specific dust control plan for the job to the client. The goal of the dust control plan is to minimize dust production and effectively manage any dust created. The dust control plan must be saved in the supplier's Documents section within the electronic Zeroni system.

Construction waste handling and cleanup must be done with as little dust as possible. Suppliers are responsible for ensuring daily cleaning is carried out thoroughly, using the proper equipment, protective measures, and procedures.

If dusty work is performed in areas like electrical rooms, the main gate must be asked to disconnect the fire alarms for that area when requesting a work permit, to prevent false alarms.

7.8 Chemicals and Hazardous Substances

Before beginning work, suppliers must review the safety data sheets for all substances to be used and provide this information to employees. Employees are required to follow all instructions given by the manufacturers.

Safety data sheets for chemicals must always be accessible to employees. Information about chemicals brought on-site must be included in the supplier's risk assessment, which is stored in the Zeroni electronic system. Chemical and biological substances must be stored according to the manufacturer's guidelines, with special attention paid to temperature requirements on the job site.

7.9 Work in Confined or Tight Spaces

All contractors must follow Boliden Harjavalta's [guidelines for working in confined spaces](#). Work performed in confined or tight spaces requires a risk assessment and a tank work permit before starting. The permit ensures the area is isolated from the process and safe for work. Permit procedures are in place to guarantee careful planning, with risk identification and control playing a key role.

The level of breathable air must be checked by measurement. There should always be a safety attendant outside the confined space, monitoring anyone working inside. The attendant must stay in constant contact with workers in the confined space and is responsible for alerting and assisting if anything goes wrong. Rescue planning must ensure the rescuer is not put in harm's way. If someone leaves the tank for a break, the safety attendant makes sure that new gas measurements are taken before work resumes. The safety attendant cannot serve as the hot work guard at the same time.

7.10 Explosive Hazard Areas

Some areas in Bohan's production facilities are classified as explosive hazard zones. These spaces are clearly marked with appropriate warning signs. As a rule, hot work is not permitted in explosive hazard areas. If hot work must be done in such a location, all measures to prevent explosion risks must be documented in the work permit or other supporting documents before work begins. Workers in these areas must use equipment and protective gear suitable for the zone classification and be informed about the specific risks of the area.

7.11 Electrical Work

All electrical installations must comply with the current electrical safety regulations SFS6002. When supervising or assigning electrical work, it is essential that everyone involved understands their responsibilities and that the chain of responsibility remains unbroken. Oversight of electrical safety will be carried out according to the SFS 6002 standard. Only trained electricians are allowed to take part in dismantling electrical systems. Always verify that the system is de-energized before proceeding.

7.11.1 Working Near Live Wires

The location of live wires must always be confirmed. Boliden Harjavalta's documents may not always be fully up to date. Make sure to determine the required safety distances reliably, for example, by consulting the wire owner.

7.12 Radiation Safety

The use of radiation at Boha does not result in occupational or public exposure exceeding safety limits. Only low activity sealed sources (no HASS sources) are used, and their radiation shielding is constantly monitored. The likelihood of anyone receiving a dose above the public exposure limit from this radiation is extremely low. Occupational and public exposure at Boha, as well as the sealed sources, are classified under exposure class 3.

The shielding for sealed sources is designed so that, outside the primary beam, the dose rate at one meter from the device surface does not exceed 7.5 $\mu\text{Sv/h}$. All radiation sources are equipped with protective covers that can fully enclose the sealed source if needed. When work is done near a radiation source or within its beam, it must be ensured that no danger arises from radiation and the annual effective dose does not exceed 1 mSv per year.

The risk of radiation hazard is assessed when a work permit is granted. If a radiation hazard is found at the site, the source shutter must be closed and locked before the permit is issued. Boha is responsible for closing and locking the source. The correct functioning of the shutter is always verified with a radiation meter.

In all unusual situations, the radiation safety officer or their deputy must be contacted first, and they will immediately investigate the situation.

7.13 Excavation Work

All contractors must comply with the Excavation Guidelines established for the Suurteollisuuspuisto area. [Excavation Guidelines](#).

When working in an excavation, special care must be taken regarding soil fluidity and the risk of collapse. This is especially important in wet conditions, during thawing, or when vibrations from traffic or construction may affect the trench. Proper shoring or sloping of the trench edges should be considered during the planning stage. If digging in organic or fine-grained soils, or if the trench is deeper than two meters, measures to prevent cave-ins must be taken. The same precautions apply when digging next to or underneath a building. Ways to reduce the risk of collapse include:

- By avoiding premature opening of the excavation
- By sloping the edges of the trench
- Reinforcing the trench walls, for example with pilings or similar supports.

For trenches at least 1.5 meters deep, a safe way in and out must be provided (such as a slope, stairs, etc.). Before starting excavation work, underground pipes, cables, grounding wires, and similar utilities should be identified whenever possible.

If a trench is left unattended, steps must be taken to prevent outsiders from falling in, such as installing barriers or other mechanical obstacles. Warning tape may be used to alert people to the hazard, and it should be placed far enough from the edge of the trench.

During excavation, check for potential soil contamination, which always includes assessing the presence of hazardous substances and, if necessary, determining whether the soil can be sent to a landfill. The responsibility for contamination assessment primarily lies with the party commissioning the excavation. This assessment is

usually done before excavation starts. If groundwater is pumped to a water utility during excavation, an environmental impact assessment must be carried out. If, during construction, widespread organic contaminants (such as oil) are found in the soil or excavation occurs below the groundwater level, the supervising authority must be notified. The Boliden Harjavalta Environmental Department is responsible for making this notification.

7.14 Prefabricated Element Work

The supplier responsible for installing prefabricated elements must ensure an installation plan is created in accordance with Vna205/2009. When needed, coordinate with the element manufacturers and designers. The structural engineer, site supervisor, and installation manager must each sign off on the final installation plan. Before any installation begins, make sure all workers are familiar with the plan and have the necessary skills to safely complete the work. If required, support elements on concrete installation bases. Always exercise extra caution during both the installation and support of elements.

7.15 Working Alone

Try to avoid high-risk tasks being done alone whenever possible. Any employee working solo must have the personal abilities and technical know-how to perform the job safely. Pay special attention to using proper safety equipment and working safely when alone. Supervisors should always have precise information about the lone worker's tasks and plans. The estimated duration of the work must be reported to the authority responsible. Once a high-risk job is completed, the worker must check in again. If the worker fails to check in within the expected timeframe, the person receiving the report must try to contact them. If contact cannot be made, the responsible authority will send someone to the site to check on the situation. Supervisors may increase the frequency of check-ins if needed. If the worker feels the job is too hazardous, they must coordinate next steps with their supervisor.

7.16 Lockout-Tagout and Energy Isolation

The lockout-tagout procedure is a safety method used to separate equipment or machinery being serviced or repaired from dangerous energy sources, making sure the device can't be started by locking (lockout) and tagging (tagout) the energy isolation device. Hazardous energy can come from any source that poses a risk to people. The most common hazardous energy sources include electrical energy, hydraulic or pneumatic potential energy, the release of chemicals or materials, chemical reactions, and mechanical energy. This method ensures equipment is safely disconnected from energy and remains de-energized throughout maintenance or repair. After isolation, lockout is performed, and test operation is carried out if possible.

8 Procedures

8.1 Cleanliness and Order

Keeping the worksite clean, organized, maintaining tools in good condition, and using safety equipment are the foundation of safe operations. All work areas must stay tidy and well-ordered throughout the project. If a supplier fails to maintain proper cleanliness and order, Boha reserves the right to pause all work until the area has been cleaned.

All waste and unnecessary materials must be promptly removed from the work area and placed in their designated spots. Each supplier is responsible for keeping their own work area clean and organized during working hours, allowing for thorough cleaning as needed. Every supplier is required to clean up and transport construction, installation, and packaging daily to the assigned locations. Waste must be sorted according to Boha's sorting guidelines.

Installation supplies and materials must be stored in the locations specified in the worksite plan or other contractual documents, or indoors, and must be adequately protected against damage.

When placing a site container, ensure it does not pose a traffic hazard or endanger other containers or buildings, especially in emergencies or fire situations. Emergency routes must always remain clear. The container must be marked [according to Boha's instructions](#). Contractors are responsible for the cleanliness of both their workstations and support areas, as well as their surroundings. Placement of tool and storage containers on-site requires permission. Boha is responsible for regularly cleaning the worksite cabins used by suppliers as break rooms.

Boha is responsible for proper removal of waste containers from the work area, following its own guidelines and standards.

8.2 Work Permit

Suppliers are responsible for ensuring that everyone working on the site has the proper qualifications and hands-on experience for any permit-required tasks (such as electrical, welding, elevator, fire, lifting, and blasting jobs).

All annual maintenance tasks are scheduled well in advance of the start date and require a work permit managed through an electronic permit system. The permit process includes five equally important steps:

- 1 Pre-filling; The responsibility for pre-filling the work permit usually falls to the supervisor, work inspector, or planner. The person pre-filling must assess any risks associated with the job, outline safety measures, and specify any special protective equipment required. Once all mandatory fields are completed, the system will generate a permit ID number and a related PIN code upon saving. Work permits should be filled out well in advance—at least three (3) business days before work begins—to allow enough time for a thorough review before approval.
- 2 Process Risk Assessment and Approval; After pre-filling, the permit is requested from the permit issuing location. The issuer retrieves the pre-filled information using the permit ID number. The issuer reviews the provided details and records the necessary safety precautions for the job. At this stage, process risks and isolation procedures for the location are also defined, along with who will carry out the safety actions. The work permit application must specify where hazard identification and preparedness for the job can be found, such as in the Maximo or Zeroni system.
- 3–5: Performing the work, finishing the task, and confirming completion. Typically, the work permit covers the entire duration of the job. The permit issuer reviews and activates permits before each shift, but only for up to one day at a time. When the shift ends, the permit must be reported as paused. If conditions at the worksite change during the permit period, the issuer must update the permit to reflect the new situation.

8.2.1 Permitted Work in Electrical and Automation Areas

The permit is issued by the designated electrical automation maintenance supervisor for the area, who also confirms or appoints a person responsible for electrical safety during working hours.

8.3 Operation and Inspection of Machines and Equipment

Each supplier's person responsible supervises scheduled inspections and checks of all machines and devices used in their contract. Inspection documents must be saved in the Documents section of the electronic Zeroni system.

Each supplier's designated representative is responsible for making sure tools and machinery are in proper working order, fit for their intended use, and safe for both users and the environment. Everyone is also accountable for their own personal tools and equipment, including inspecting them daily. All work machines, devices, and safety gear must be checked before starting any job. Pay special attention to ensuring that mechanical and electrical safety features on machines and equipment are functioning perfectly.

Proactive measures play a key role in preventing falling objects. Secure all necessary materials and tools, for example by tying them down, to prevent them from falling. If needed, use protective nets, overhead coverings, or similar safety devices to stop objects from dropping. Scaffolding platforms must be equipped with toe boards.

Throughout the project, everyone on site is required to report any issues they notice with the machines or equipment to their supervisor. Any identified problems must be fixed immediately. If immediate repair isn't possible, the affected machine or technical device must be taken out of service or replaced.

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During repairs. Safety-related components, devices, or equipment must not be removed or disabled from machines in use, whether electrically, mechanically, or by any other means. For example, angle grinders must always have their designated handles attached. If work needs to be done without a handle, this must be discussed and agreed upon with the client, based on a risk assessment. The agreed procedure should be documented in the risk assessment for that job.

For rented machines and equipment, confirm that all required safety tests have been properly conducted and are current. Also, make sure the rental provider gives the necessary orientation and training for operating the equipment.

The use of slings is strictly prohibited for crane lifts in the converter hall.

Galvanized and lightweight metal materials should be avoided in sulfuric acid plant areas, especially in evaporation and washing sections.

8.3.1 Charging Batteries for Electric Tools

Devices should only be charged in fire-safe, dust-free areas under supervision, using chargers designed for specific equipment. An unsupervised area is defined as a place where no personnel are present during working hours.

8.4 Site Inspections

Representatives appointed by Boha, such as the safety coordinator and the occupational safety delegate, are authorized to conduct safety inspections and reviews at the worksite at any time. If any work is believed to threaten health, life, or the environment, Boha's representatives are empowered to halt the work they consider hazardous. Safety deficiencies identified by Boha's representatives must be corrected without delay, as well as any issues that could pose risks or serious harm to others in the vicinity of the site. Boha's representatives may also set a deadline for correcting any negligence. If issues are not resolved by the specified time, Boha may escalate the matter to occupational safety authorities.

Boha conducts safety inspections at each worksite at least once a week, using the appropriate inspection method.

Each safety deviation must have a responsible person assigned, and corrective actions are to be taken immediately. The safety standard for fall protection is set at 100%. Follow-up on any deviations is included as part of regular meeting procedures.

8.5 Safety Deviations

The supplier is required to report and document any workplace accidents, property damage, environmental incidents, or near misses to the safety coordinator, annual maintenance manager, installation supervisor, or site contact. Any work-related accidents or environmental incidents must be reported immediately or as soon as possible, and investigations should begin without delay. Representatives from Boha's annual maintenance organization and the safety coordinator must take part in root cause analysis. It is recommended to use Boha's reporting system for incident notification.

Deviation management tool (MIA). The MIA mobile app is available for downloading in app stores. Additional instructions for suppliers can be found [in this separate guide](#).

Root cause analysis must be conducted at minimum in the following situations:

- fatal incidents
- accidents resulting in disability or requiring medical treatment
- serious hazards such as
- fires/ignitions
- major near-miss events

If necessary, any workplace accident must be reported to the occupational safety authorities and the Finnish Safety and Chemicals Agency (Tukes) in accordance with Boha's procedures. Suppliers are also required to notify the occupational safety authorities of any serious accidents involving their personnel.

8.5.1 Modified Duties

Boha has a system in place for modified and light-duty work. Boha requires that suppliers implement a similar system. A decrease in work ability does not always mean an employee must take sick leave or be absent from work, as they may still be capable of performing modified or lighter tasks. Taking on modified or light-duty work requires an assessment of the employee's capacity by occupational health services.

An employee cannot refuse modified duties if occupational health has determined they are fit for such work and suitable tasks can be assigned.

8.6 Handling of Personal Data and Supervision

According to section 13(3) of the Government Decree on the Safety of Construction Work, the main contractor must ensure they have up-to-date information about all workers and independent contractors on the site. To fulfill this responsibility, employers must provide the main contractor with the required details regarding their employees and independent contractors working on the site.

At Boha's annual maintenance sites, we use the Zeroni digital system to manage all legal obligations. This platform handles employee notifications to the tax authorities, up-to-date personnel lists for the Regional State Administrative Agency, and ensures compliance with subcontracting regulations throughout the supply chain. For suppliers, the system offers an interface for managing and updating credentials and personal information for their staff and subcontractors. The service guarantees that only qualified employees and trusted partners are working on site. Zeroni's authorization process streamlines site access for annual maintenance and helps keep track of certifications, safety checks, and access or vehicle permits.

To receive a site access permit, workers must have completed the Suurteollisuuspuisto general safety induction, the annual maintenance orientation, possess a valid occupational safety card, have a Finnish tax number, and, in the case of foreign workers, have proper work authorization in Finland. If any shortcomings are found in verifying a company's employees' work rights, the application will be returned to the company's contact person. When all requested corrections are confirmed by the company, the process can move forward.

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The processing of the site permit may take some time. Be sure to allow enough time to verify employees' right to work and obtain the permit, so apply for your site permit through the Zeroni online system as soon as you can.

Everyone working on the site must wear a visible photo ID that clearly identifies them while moving around the work area. The ID must specify whether the person is an employee or an independent contractor, and it must also display their personal tax number. Employee IDs should include the employer's name. Temporary visitors who are only delivering goods to the site do not need this ID. The tax number must be registered in the tax number register.

8.6.1 Supplier's Site Management

The supplier must appoint a site manager who is responsible for ensuring that both their employees and any subcontractors are fully informed about all safety regulations, and that compliance is properly monitored. Site management is also responsible for making sure their workers are aware of job-related risks. The site manager will oversee and organize the supervision of subcontracted work as needed, and coordinate with Boha's annual maintenance organization. The supplier must also designate a contact person to act as the user of the Zeroni electronic system. In the Zeroni system, it must be indicated who serves as the company's safety officer, if this is a different person than the site manager or Zeroni contact.

8.6.2 Tax Authority Notification

Boha is responsible for submitting information about individuals present at the site to the tax authority each month. These personal details regarding time spent on site are gathered from access control records.

8.7 Scheduling, Coordination of Work, and Monitoring Implementation

Before starting any major work phases, Boha will plan the sequence and timing of each job and task to ensure everything can be carried out safely, without putting anyone involved at risk. The person responsible for the work must organize the scheduling in a way that makes the best use of available resources, minimizes unnecessary movement, and reduces the need to move equipment around. Any ongoing industrial activities or unrelated operations in the area will also be considered when planning the construction schedule and site usage.

All other parties must adhere to the overall project schedule and working hours. Critical tasks for project progress must be scheduled with enough flexibility to accommodate possible disruptions caused by changes in the work or conditions.

A kickoff meeting or coordination session will be held before work begins. During and after the project, additional follow-up meetings may be organized if needed. Boha will invite participants to the kickoff meeting. The meeting practices, and if necessary, who will call future meetings, will be determined during the kickoff. Workplace safety will always be a dedicated topic on every meeting agenda.

8.8 Communication During Annual Maintenance

A dedicated text message channel will be set up for communications during the annual maintenance period. Everyone is responsible for joining the channel themselves. Instructions for joining will be provided during the Annual Maintenance Orientation. Updates through this channel will include information such as changes to access routes or evacuation needs at workstations.

Contact people for suppliers and site supervisors will be informed about general matters related to annual maintenance via the electronic Zeroni system. Other sources of information include the Info-TV screens around the site and various follow-up meetings.

Instructions and procedures related to annual maintenance can be found on the Annual Maintenance site within the Suurteollisuuspuisto Intranet.

8.9 Safety Violations

If you notice any lapses in workplace safety, it is everyone's responsibility to address the issue to ensure a safe working environment. The following procedures must be followed when responding to safety violations:

1. A verbal warning and serious conversation will be issued, and the incident will be recorded in the site log or deviation management system (MIA).
2. For a second similar violation, the person will be removed from the site for the rest of the day, the incident will be logged, and a written complaint will be sent to the contract manager responsible. The contractor's CEO must submit a written report on corrective actions to the Annual Maintenance Manager.
3. Repeated violations will result in permanent removal from the site, with the incident documented in the site log. Loss of access/work ban will last at least one year.
4. In the most severe cases, the contract may be terminated, and the company may be banned from working at Boliden Harjavalta sites.

In cases of serious safety violations where there is a clear risk of accidents such as neglecting fall protection or unauthorized access to restricted lifting zones—a warning will be issued. The warning will be given by the person's supervisor or the designated safety officer. A second offense will result in an immediate work ban within the Industrial Park. Loss of access/work ban will last for at least one year. If the violation involves [alcohol or drug use](#) or [traffic violations](#), there are separate guidelines in place for the Industrial Park.

9 Emergency Response Plan

9.1 Actions in Case of Accident or Sudden Illness

NOTIFY emergency services and the main gate

BEGIN first aid ²⁸

GUIDE rescue personnel to the scene

ACT in a calm and orderly manner

THINK carefully and never put yourself or others at risk

Emergency first aid is lifesaving. By giving emergency first aid, you can save someone's life, prevent their condition from worsening, and make sure professional help is on the way. In an emergency, every minute someone who is seriously injured or suddenly ill needs help fast. Start emergency first aid immediately at the scene.

Always notify the main gate at the Industrial Park about any emergency call or accident, so they can provide guidance, for example, when an ambulance is arriving. Clearly explain to the main gate exactly where the accident occurred.

9.2 Actions in the event of a fire

RESCUE anyone in immediate danger

REPORT on the main gate; the gate will alert the industrial fire brigade and, if needed, emergency services

EXTINGUISH or try to contain the fire

PREVENT the fire from spreading

GUIDE the fire department to the scene

ACT systematically

THINK and don't put yourself or others at risk

9.3 Actions in the event of an electrical accident

If an electrical accident occurs, the person quickly disconnects from the electrical device. Do not touch the victim with bare hands until the power is off, to prevent electric shock to yourself. If the power cannot be turned off, use a non-conductive object, such as a dry wooden stick or rubber boots, to separate the victim from the device.

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TURN OFF the power

DISCONNECT the victim

NOTIFY emergency services and the main gate

BEGIN first aid

GUIDE emergency personnel to the scene

THINK and do not put yourself or others at risk

9.4 Actions to Take in Case of an Oil Spill

The factory is in a Class 1 groundwater area, so any oil spill on the ground can cause environmental harm. Always report oil spills immediately to the main gate (02 535 8112). Security will alert the plant fire brigade to assess the situation.

- Try to stop the leak and keep it from spreading
- Check if there are any drains nearby
- See if the oil is flowing onto soil or asphalt

For more detailed instructions for different situations, see the separate [guide](#).

9.5 Actions in Case of a Major Accident

In the event of an accident, emergency response in each department is initiated by representatives of the onsite line organization. During such situations, departmental responsibilities include warning and alerting all personnel in the area to move to designated shelters and carrying out planned protective actions.

Staff can be alerted and informed using the alarm/public address system, fire department emergency vehicles' loudspeakers, cell phones, and radios. For major emergencies, a dedicated text message channel, also used for annual maintenance communications, is utilized. Security has the authority to issue a general danger signal across the Industrial Park and to broadcast emergency messages over the alert channel. When the danger signal sounds or a major accident warning is received, immediately proceed to the nearest shelter. Everyone is responsible for identifying the nearest shelter to their workstation in advance. [Find shelter locations here.](#) Emergency response training for major accidents is also part of employee orientation.